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Early Attempts at Crop Insurance in the United States

Reserve

The term "crop insurance" as used herein refers to broad protection against essentially all risks rather than to insurance of crops against one or two specific risks. Insurance of crops against hail losses has for many years been written quite exclusively by private companies, mutual companies, and by a few states. Insurance against fire loss to the growing crop is also written in some parts of the country. At the present time, however, there is no general "all risk" crop insurance written except by the Government through the Federal Crop Insurance Corporation.

There have been a number of attempts in earlier years by private companies to write general crop insurance. These have all been discontinued -- in fact, they lasted only for short periods. It is the purpose to set forth herein from the limited information that is available, a description of these various ventures. Wide use is made of excerpts from several sources, some of which in themselves represent summaries of earlier writings.

It will be noted that the insurance in all cases was on a monetary basis. Essentially the plans were to guarantee a certain return from the crop and to pay an indemnity for the amount by which the actual returns were less than the amount of insurance.

The following is quoted from the Preliminary Report of The Committee on Crop Insurance, Regina, Saskatchewan:

"The First Crop Insurance Plan, 1899

"According to Professor G. Wright Hoffman, the well known authority on insurance, the earliest known attempt to write crop insurance was undertaken by a Minneapolis company in 1899. The company guaranteed the farmer that his grain would be worth at least $5.00 per acre at the time of harvest. All the usual hazards were covered including damage from weather, plant disease, insect pests or from any unforeseen force. The guarantee of $5.00 represented insurance against a decline in price, since, with a low price, a good crop might be worth less than the face of the policy. The premium was 5 per cent. A typical insurance agreement under this policy reads in part as follows:

'THIS AGREEMENT, Made by and between the .... of Minneapolis, Minnesota, and .... of .... P.O., County of ....and State of North Dakota, party of the second part,

'WITNESSETH, That in consideration of an application for this contract, which is hereby referred to and made a part hereof and the payment of the sum of $55.00 according to the conditions

of a certain promissory note for said amount, by said party of the second part, the above named .... agrees to purchase the entire crop of small grain, consisting of wheat, oats, flax, barley, corn or rye, from the said party of the second part at the rate of $5.00 per acre, grown during the season of 1899; all of said crops being on the following described lands, to wit:

60 acres N.W. 1/4 (West side)	Sec. 26	T. 146	R. 65	$300.00
160 acres S.E. 1/4	Sec. 20	T. 146	R. 65	800.00
220 Total				$1,100.00'

"The venture proved to be a failure due partly to inefficient management and also that the rate charged appears to have been too low for the insurance limit. On the other hand, the $5.00 limit does not appear to have been unduly high since the average price of wheat in North Dakota in 1899 was 51 cents per bushel and the average yield was 12.8 bushels, while in Minnesota the price averaged 55 cents per bushel and the yield 13.4 bushels. This meant that in North Dakota the insured crop of wheat would have had to average less than 10 bushels to the acre before the company would have had to pay for any loss and in Minnesota the yield would have had to be 9 bushels before any indemnity could have been claimed.

"Crop Insurance in 1917

"The next attempt to write crop insurance in the United States was in 1917 when two companies operated in the spring wheat sections of Minnesota, North and South Dakota and Montana. The contracts were practically identical and read, in part as follows:

> 'The .... Company hereby insured........... in the sum of .... dollars, but in no event to exceed seven dollars per acre, of full ownership in crop against damage to or failure of the following described crops of small grain from hail or any cause, (excepting as stated in said application), between the .... day of .... 1917, at noon, and the 15th day of September 1917, at noon Standard Time, and in no event shall the company be liable for damages after the grain is cut.'

"The policy covered all the usual hazards except fire, flood, winter-kill, or failure of the applicant to prepare the ground properly for seeding or failure to use proper methods in seeding, harvesting, protecting and threshing the crop. The rate was 10 per cent or 70 cents per acre.

"An attempt was made to insure land from which a yield valued at $7.00 per acre had been obtained during the past three years.

"In the event of crop failure, the company undertook to pay the insured $7.00 per acre. In the event of partial failure the company agreed to pay the difference between the estimated value of the crop and the face of the policy. The estimated value was determined by a fixed price per bushel for the partial crop: wheat, $1.00; flax, $1.75; rye, 70 cents; oats and barley, 50 cents.

"In fixing the value of the partial crop for the purpose of adjustment, the risk of a decline in the market value of the grain harvested was not covered by the policy. It is thus evident that the method of adjustment tended to accentuate the hazard of a decline in prices.

"Heavy losses were sustained by the companies due partly to the drought which prevailed over most of the insured area. Another reason for the failure, and one which could have been avoided, was that insurance was written too late in the season. In addition, it is not clear that any attempt was made to differentiate between localities due to soil or moisture variations."

The following is quoted from the Report of the Wheat Crop Insurance Consulting Committee - mimeographed, unpublished:

"Although 1917 was a year of unusually severe drought an official of the company attributed the failure to: (1) poor management, (2) concentration of risks in a small area, and (3) extremely bad adverse selectivity due to the fact that applications were accepted when crop failure was widely anticipated. - -- and "the bulk of insurance was written at the time when crop failure seemed highly probable."

The following is quoted from U. S. D. A. Bulletin 1043 - Crop Insurance: Risks, Losses and Principle of Protection by V. N. Valgren:

"The insurance, therefore, even though written in terms of money, covered yield rather than returns on a monetary basis. In other words, the insured was protected in a measure against crop damage but not against a possible drop in prices of the crop produced. Adjustment of all partial losses was necessarily postponed until after the insured crops had been threshed.

"These first attempts at general crop insurance proved rather disasterous for the companies that undertook them, owing, in part, to the severe drought that occurred in large sections of the states mentioned and, in part, to inadequate safeguards for the companies against the assumption of risks after severe damage had already taken place. The losses incurred under these contracts were to a considerable extent repudiated by the companies. Inability to settle in full was pled. In some cases fraud on the part of the insured was alleged and many claims were tentatively settled by the return of the premium collected."

In the crop insurance venture in 1899 and also again in 1917 a uniform guarantee per acre or at least a uniform maximum per acre was established all farms. There is substantial difference between the productivity of different farms in an area and a $5 or $7 coverage might be a low guarantee for some farms and an excessive guarantee for others. It is quite possible that the failure to fit the guarantee to the productivity of the insured farm was one of the reasons for the failure of these two attempts at crop insurance.

According to G. Wright Hoffman, a mutual company also wrote a small amount of crop insurance in South Dakota in 1917 but met with very little success and did not attempt to write any the following year. Another minor experiment was made in Worcester County, Massachusetts this same year but their experience is of little practical importance.

In 1919 a mutual company in Northern Missouri was organized to write insurance against hail and destructive storms which included hail, cyclone, wind storms, and destructive rain storms when accompanied by either hail or wind but did not include protection against losses due to hot winds, drought, insects, flood or freeze. The basis of loss settlement was to be the percentage of damage applied to the insurance coverage as is usual in hail insurance. The company lasted only a few months when their affairs became so involved it was necessary to place them in the hands of the receiver.

The following is quoted from the Preliminary Report of the Committee on Crop Insurance, Regina, Saskatchewan:

"Crop Insurance in 1920 and 1921.

"No further developments of any importance with respect to crop insurance occurred until in 1920 when several companies, but chiefly the Hartford Insurance Company, attempted to write crop insurance upon an extensive scale. The Hartford Insurance Company wrote approximately $14,000,000 of insurance with the premium averaging about 5.75 per cent.

"The policy covered losses to growing crops 'when caused by the elements including frost, winterkill, flood, drought, insects or disease but excluding loss or damage when caused by fire, hail, wind or tornado or failure of seed to germinate or failure of insured to properly prepare the ground for seeding or to properly seed, cultivate, and harvest said crops'. The amount of insurance was based upon a schedule of costs upon an acre basis estimated by the applicant and included the cost of plowing, discing, harrowing, packing, seed, seeding, and harvesting, together with an estimate of the rental value of the land. A percentage of the sum of the expenses as estimated by the applicant was taken as the amount of the insurance per acre. In case of total loss the insured was to receive the total amount of the insurance unless the crop were

abandoned early in the season, in which case the insured was to receive an amount equal to his outlay up to the date the crop was abandoned. In case of partial loss the company undertook to pay the insured the difference between the face of the policy and the actual market value of the damaged crop at the time of harvest.

"The policy thus guaranteed the insured against a drop in prices and due to the drastic decline in prices in 1920 the venture proved costly for the company, the sum of $800,000 being received in premiums while losses amounted to $2,500,000.

"It is to be noted that one of the major problems encountered by the company was the variation in the costs estimated by the different applicants.

"Due to this experience the Hartford Company changed its policy to the following basis: the factor or price fluctuation was eliminated and the policy provided, first, that if the cost of production were equalled by the value of the crop then no indemnity would be paid; second, that the indemnity was to be based on a certain percentage of the average yield of the applicant during the past five years, such part of the average yield being translated into dollars by applying to it a value per bushel based on the price prevailing during the period in question. Then if the applicant's average production were 15 bushels and the contract were based on 10 bushels, he would receive no indemnity regardless of any drop in prices provided he produced 10 bushels to the acre. On the other hand, if the applicant produced 5 bushels per acre but the price was so high that it equalled the cost of production as measured by the price of 10 bushels in the face of the policy, then no indemnity would be paid.

"This policy was designed to protect the interests of the company in view of the disastrous experience of the previous year but the type of the policy which the company considered practicable and which they felt that farmers could pay for did not appeal to the farmers themselves and practically no business was done. The change which the company made in its policy was a vivid indication of some of the difficulties involved in providing a crop insurance policy which would appeal to the farmer and at the same time make it possible for the company to finance the plan.

The Home Insurance Company of New York wrote some crop insurance in 1920 and 1921. The contract was similar to that of the Hartford Insurance Company and the following schedule of the cost of the various operations was prepared:

Plowing for grain - - - - - - - - - - - - -	$3.00	per	acre.
Discing - - - - - - - - - - - - - - - - - -	1.00	"	"
Harrowing - - - - - - - - - - - - - - - - -	.60	"	"
Packing - - - - - - - - - - - - - - - - - -	.40	"	"
Drilling- - - - - - - - - - - - - - - - - -	.90	"	"
Listing - - - - - - - - - - - - - - - - - -	1.25	"	"
Cutting small grain - - - - - - - - - - - -	1.50	"	"
Shocking small grain- - - - - - - - - - - -	.70	"	"
Twine - - - - - - - - - - - - - - - - - - -	.60	"	"
Heading small grain - - - - - - - - - - - -	2.00	"	"
Combining - - - - - - - - - - - - - - - - -	3.00	"	"
Stacking- - - - - - - - - - - - - - - - - -	1.50	"	"
Threshing - - - - - - - - - - - - - - - - -	2.00	"	"

"Land rental 5 per cent of actual sale value but latter not to exceed $18.00 per acre.

"After the first year of operations, the company restricted its liability to $10.00 per acre for grains. The rates varied somewhat according to districts. The company did some business in Saskatchewan and Alberta in 1921 but with unsatisfactory results."

Regarding the 1920 experience of the Hartford Insurance Company the president of the company in testimony before a special Senate Committee in 1923 stated:

"That was 1920. That was the year of great price fluctuations. We assumed a liability of 14 million dollars. We had practically nothing in what might be called the eastern states east of Ohio and north of North Carolina; only $125,000 of risk. In the southern states we had a risk of a little over 4 million dollars, in the western states, the central belt, we had a little over 4 million dollars of risk and on the Pacific coast we had about 5 million dollars risk. All of those fields gave us extremely disasterous results, without exception. - - - we found that the cost of producing the crops as insured in our policies was, in a great many cases, more than the crop was worth when it was finished. We had a loss on almost every policy. It convinced us of one thing, that the issuance of a policy which proposes to pay back to the farmer the total cost of production is fallacious and that nobody can undertake it with safety and without the risk of bankruptcy to the strongest companies in the world. - - - - this general unfortunate experience was incurred in connection with wheat, with rye, with oats, with corn, and with cotton, all the major crops."

Following the heavy losses of 1920 and the small volume written in 1921 because of more conservative policy terms, there was considerable retrenchment in the crop insurance activities of private companies. In the succeeding years during the decade of the 20's there was some insurance written in limited areas on fruit. Some of this insurance was written through associations of growers and some represented only insurance against credit advances on the crop.

The following is quoted from the Report of the Wheat Crop Insurance Consulting Committee - mimeographed, unpublished:

"One example of this type of insurance is that placed by the Georgia Peach Growers' Exchange with the Automobile Insurance Company of Hartford in the early 1920's. This policy protected members of the exchange from 'loss or damage by fire, lightning, cyclone, tornado, windstorm, hail, rain, flood, frost, freeze and insects.'

"The insurance was designed to reimburse the grower for costs of production in the event that the value of his crop did not cover these costs. Subject to a maximum of twenty cents per tree until the time of harvest and twenty-five cents per tree thereafter until shipment, the liability of the company was equal to the difference between the actual value of the crop after the occurrence of the loss or damage, and the actual expenses incurred in the production of that crop.

"Ostensibly the insurance was designed to guarantee costs of production, but actually, insofar as a decline in price was accompanied by a loss due to a natural cause,the company was in fact guaranteeing a minimum market value. The protection given under the policy was not large, however, and this aspect was not of paramount importance. A rate of 5 percent was charged, and according to all reports the scheme was satisfactory to all concerned.

"Another type of crop insurance is that which has been termed 'credit crop insurance'. Insurance policies were issued not to the farmers themselves but to companies advancing either money or materials to the farmers. The amount of insurance was equal to the total of advancement made by the fruit company to the grower. These advancements in turn were limited to a sum equal to 50 percent of the average crop in the last three normal years multiplied by a price of fifty cents per box. The liability of the company under these provisions is very slight indeed. The price of fifty cents a box, based on 50 percent of the average yield, produces a very conservative figure for the total amount of insurance.

"The company was liable for all damage 'to the growing apples when caused by frost, freezing, excess of moisture, drought, hail, wind, insects or disease, but not the negligence of the farmer in failing to properly cultivate, spray and care for the crop.'

"The company's liability could be paid in either of two ways: (1) The difference between the market value of the crop and the insurance, or (2) the difference between the contract yield and the actual yield at the prevailing market price. Obviously, the choice of payments was to protect the company against a serious decline in price, but it is to be doubted that serious losses would occur widely under such conservative terms.

"Another type of 'credit crop insurance' was issued to protect the creditors of orange growers from substantially the same risks in Florida. The company was liable for the difference . . . , between the amount actually received from the sale of such crop and the amount of insurance applying thereon. The insurance company was liable for advances on the estimated crop, as appraised by representatives of the credit company, up to one dollar per box, with premium rates varying from 2 to 10 percent according to the amount advanced. This policy covered not only all damage to the crop from natural causes, but also guaranteed against a decline in price.

The following is quoted from the Preliminary Report of the Committee on Crop Insurance, Regina, Saskatchewan:

"Crop Insurance in Kansas, 1931-1932.

"From the standpoint of those investigating the possibilities of crop insurance in this Province one of the most interesting attempts made hitherto to write crop insurance was by the Agricultural Protective Mutual Insurance Company of Kansas. This Company wrote insurance in 1931 and 1932. The main features of their policy were the following:

(1) Insurance based on allowing a stated amount for each seeding and harvesting operation, the amount allowed to vary by zones depending on soil conditions.

A typical schedule of rates was as follows:

Plowing - - - - - - - - - - - -	$1.50	per	acre
Discing - - - - - - - - - - - -	.50	"	"
Harrowing - - - - - - - - - - -	.25	"	"
Drilling- - - - - - - - - - - -	.50	"	"
Seed - - - - - - - - - - - - -	.50	"	" at market value.
Harvesting- - - - - - - - - - -	3.00	"	"
	$ 6.25	"	"

"Where a combine was used the cost was reduced at rates which varied from 50 cents to $1.00 per acre.

(2) The rates for the various zones were based on crop records over a series of years.

(3) The application of the plan involved a careful selection of risk.

(4) The rates varied from 5 to 13.2 per cent in the various zones and the premium per acre appears to have varied from 25 to 78 cents per acre.

(5) The policy covered wheat and coarse grains but the maximum allowable on a single risk was $2,000.00.

(6) All the main hazards were covered including hail and smut.

(7) In case of partial loss the company undertook to pay the insured the difference between the value of the crop at threshing time and the face of the policy.

(8) In case of total loss it was provided that in no case was the indemnity paid to exceed the cost of operation incurred up to the time of such loss.

(9) In case of loss the insured was required to submit a crop loss sheet accompanied by the necessary affidavit.

In seeking to guarantee a farmer an amount equivalent to his expenditures in connection with seeding and harvesting operations the company was insuring the farmer against a decline in prices as well as in yield. The disastrous decline in prices during 1931 and 1932 resulted in losses to the company and no insurance has been written since that time. The manager of the company claimed that a profit could have been made if the price of wheat had not fallen below 50 cents a bushel and an analysis of the operations tends to confirm this. The plan was carefully prepared and for that reason has received special attention by the committee."

The company that wrote the insurance described above failed after its 1932 business. A few years later a new company was reorganized with insurance to be written along the same general lines. This company wrote insurance in 1937 and 1938 and was generally referred to as the Sowers Plan of Insurance. In view of the fact that the company writing insurance in 1931 and 1932 failed in a large measure because of declining wheat prices, its successor included in its contract a minimum price at which the income from the crop could be computed. In other words, if the value of wheat fell below this level the insurance company would not bear the loss. The price of wheat fell to approximately that level and the price risk which the company assumed, even with a stop loss provision, was a substantial factor in forcing the company into bankruptcy after the 1938 crop. Thus to a considerable extent the attempts of private companies to insure income on the crop have failed because of the insurance company assuming all or a part of the price risk as well as the production risks.